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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/737,137      | 12/16/2003  | Timo Eriksson        | 884A.0029.U1(US)    | 5976             |

29683 7590 09/08/2006

HARRINGTON & SMITH, LLP  
4 RESEARCH DRIVE  
SHELTON, CT 06484-6212

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| EXAMINER |
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LA, NICHOLAS T

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| ART UNIT | PAPER NUMBER |
|----------|--------------|

2617

DATE MAILED: 09/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                                      |  |  |
|------------------------------|--------------------------------------|--|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/737,137 | <b>Applicant(s)</b><br>ERIKSSON ET AL. |  |
|                              | <b>Examiner</b><br>Nicholas T. La    | <b>Art Unit</b><br>2617                |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 02 August 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) 2 and 23 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 3-22, 24-27 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

The Art Unit location of your application in the USPTO has changed. To aid in correlating any papers for this application, all further correspondence regarding this application should be directed to Art Unit 2617.

### ***Response to Arguments***

Applicant's arguments filed 07/18/2006 have been fully considered but they are not persuasive. Claim 1 stands rejected as obvious in view of Chiodo, Mockridge, and Browne. Regarding independent claim 1, the applicant argues that there would be "nothing to motivate a person skill in the art to incorporate the polymer actuators of Browne into Chiodo since they may not provide the same advantages as the shape memory material and may ultimately render Chiodo unsatisfactory for its intended purpose" since "Chiodo teaches that the polymer actuators change configuration at a transition temperature whereas Browne teaches that the polymer actuators change configuration upon the application of a voltage". The examiner respectfully disagrees. First of all, it is well known that voltage, current and heat are proportionally related. Chiodo teaches a shape memory polymer is used as a releasable fastener. Browne analogously teaches an electroactive polymer releasable fastening system. Therefore, they both have the same intended use. Chiodo further teaches the shape memory material may be activated by any suitable means including heat, temperature changes that may be supplied by electrical current (paragraph [0026]). Browne teaches that the polymer actuators change configuration upon application of a voltage (paragraph [0016]-[0017]) or admittedly cited so by the applicant. Therefore, it is obvious to one skill in the art to include teaching of Browne by using an electroactive polymer capable

of converting electrical to mechanical energy to change the configuration of the polymer in combination of Chiodo and Mockridge.

Claim 22 is amended with limitation of cancelled claim 23, but there is no argument presented for claim 22. Furthermore, the limitation of cancelled claim 23 is clearly taught by Chiodo as previously presented in paragraph [0086]-[0090].

Claims 2, 23 are cancelled.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**1) Claims 1, 3-8, 13-19, 20-22, 27** are rejected under 35 U.S.C. 103(a) as being unpatentable over Chiodo et al. (US Pub. No. 2002/0062547) in view of Mockridge et al. (US Patent No. 6,876,543) and further in view of Browne et al. (US Pub. No. 2004/0074069).

Regarding **independent claims 1 and 22**, Chiodo et al. teaches a hand-portable device (see Figure 1, paragraph [0065]) including  
**a circuit assembly** (paragraph [0005]);

a **cover** encasing the circuit assembly (Figure 1, element 10a, 10b, paragraph [0065]);

a **closing arrangement**, which includes a **polymer actuator** (paragraph [0038]-[0040]), alterable between a first condition which retains at least a part of the cover on the circuit assembly and a second condition in which it allows the part of the cover to be removed from the engine assembly (paragraph [0068]-[0069]). However, Chiodo et al. does not specifically teach a portable device, wherein the device includes an **engine** assembly. In an analogous art, Mockridge et al. teaches housing for a portable device and method assembling the same. Mockridge et al. further teaches a portable device which includes an **engine** assembly (Figure 1, element 16; col. 2, line 64 to col. 3, line 38) and wherein a closing arrangement alterable, part of the cover is remained on the engine assembly and part is removed (see Figure 10, 11; col. 2, line 64 to col. 3, line 38). Therefore, it would have been obvious to one ordinary skilled in the art at the time of the invention was made to modify Chiodo et al. portable device to include an engine assembly and the mechanical movement such as taught by Mockridge et al. for an improved housing structure that will facilitate assembly of the device.

Chiodo et al. and Mockridge et al. teaches a hand-portable device with cover encasing an engine assembly, and a closing arrangement including a polymer actuator. Chiodo et al. and Mockridge et al. further teaches applying heat transfer to the polymer actuator and further teaches passing an electrical current through the material. However, Chiodo et al. and Mockridge et al. does not expressly teach an apparatus, wherein the polymer actuator includes an electroactive polymer, this being a polymer

which is capable of converting electrical to mechanical energy. In an analogous art, Browne et al. teaches electroactive polymer releasable fastening system and method of use. Browne et al. further teaches an apparatus, wherein the polymer actuator includes an electroactive polymer, this being a polymer which is capable of converting electrical to mechanical energy by the selective application of a voltage to the polymer actuator to alter the configuration of the polymer actuator (Figure 1-7, paragraph [0016]).

Therefore, it would have been obvious to one ordinary skilled in the art at the time of the invention was made to modify Chiodo et al. and Mockridge et al. to include a polymer which is capable of converting electrical to mechanical energy such as taught by Browne et al. in order to improve the apparatus such as Chiodo et al. and Mockridge et al. device for retaining or releasing the cover parts of the device respectively simply by applying a voltage to the electroactive polymer.

Regarding **independent claim 27**, Chiodo et al. and Mockridge et al. further teaches a hand-portable device including a cover encasing the engine assembly (Mockridge et al., Figure 1), the cover being formed in at least two parts (Mockridge et al.; Figure 1) and the device including a sealing arrangement (snap fit connection) for sealing (snap fit) between the two parts or between one of the cover parts and the engine assembly, the sealing arrangement including a polymer defastener (actuator) (Chiodo et al.; Figure 1; paragraph [0038]-[0040], [0068]).

Chiodo et al. and Mockridge et al. teaches a hand-portable device with cover encasing an engine assembly, and a closing arrangement including a polymer actuator.

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Chiodo et al. and Mockridge et al. further teaches applying heat transfer to the polymer actuator and further teaches passing an electrical current through the material.

However, Chiodo et al. and Mockridge et al. does not expressly teach an apparatus, wherein the polymer actuator includes an electroactive polymer, this being a polymer which is capable of converting electrical to mechanical energy. In an analogous art, Browne et al. teaches electroactive polymer releasable fastening system and method of use. Browne et al. further teaches an apparatus, wherein the polymer actuator includes an electroactive polymer, this being a polymer which is capable of converting electrical to mechanical energy (Figure 1-7, paragraph [0016]). Therefore, it would have been obvious to one ordinary skilled in the art at the time of the invention was made to modify Chiodo et al. and Mockridge et al. to include a polymer which is capable of converting electrical to mechanical energy such as taught by Browne et al. in order to improve the apparatus such as Chiodo et al. and Mockridge et al. device for retaining or releasing the cover parts of the device respectively simply by applying a voltage to the electroactive polymer.

Regarding **claims 3**, Chiodo et al. further teaches a method and a hand-portable device, wherein the closing arrangement includes means for altering the configuration of the polymer actuator between the first configuration and the second configuration by selectively applying a voltage to the polymer actuator (paragraph [0086]-[0090]).

Regarding **claim 4**, Chiodo et al. further teaches a hand-portable device, wherein the polymer actuator includes a conductive polymer (paragraph [0086], [0096]).

Regarding **claim 5**, Browne et al. further teaches a hand-portable device, wherein the polymer actuator further includes an electrolyte sandwiched between two electrodes, one of the electrodes comprising the conductive polymer (see Figure 1; paragraph [0017]-[0019]).

Regarding **claim 6**, Browne et al. further teaches a hand-portable device, wherein the polymer actuator is bistable, such that voltage may be applied to alter it between its first and second configurations, but application of voltage is not necessary to maintain it in either its first or its second configuration (paragraph [0017]).

Regarding **claim 7**, Chiodo et al. further teaches a hand-portable device, wherein the polymer actuator in its first condition mechanically retains the cover on the engine assembly (paragraph [0068]).

Regarding **claim 8**, Chiodo et al. further teaches a hand-portable device, wherein the device is configured such that when the closing arrangement is in the second condition, at least a part of the cover is forced out of contact with the engine assembly (paragraph [0069]).



Regarding **claim 13**, Mockridge et al. further teaches a hand-portable device, wherein the cover includes at least two cover parts which are detachable from the engine assembly, the cover being retained on the engine assembly by attaching the cover parts together to encase the engine assembly or by attaching each cover part to the engine assembly (see Figure 1, 10, 11; col. 2, line 64 to col. 3, line 38).

Regarding **claim 14**, Mockridge et al. further teaches hand-portable device, wherein the cover includes one cover part which is permanently attached to the engine assembly and one cover part which is detachable from the engine assembly, the cover being retained on the engine assembly by attaching the detachable cover part to the other cover part or to the engine assembly (col. 3, line 29 to 38).

Regarding **claim 15**, Mockridge et al. further teaches a hand-portable device, wherein the closing arrangement may selectively retain together first and second closure portions of the hand-portable device, in order to selectively retain the part of cover on the engine assembly, the first closure portion being on one cover part and the second closure portion on the other cover part, or the first closure portion being on one of the cover parts and the second closure portion on the engine assembly (Figure 1, 10, 11; col. 2, line 64 to col. 3, line 38).

Regarding **claims 16, 17**, Chiodo et al. and Mockridge et al. teaches a hand-portable device with cover parts. However, Chiodo et al. and Mockridge et al. does not

teach a portable device, wherein configured such that when the two closure portions are retained together by the closing arrangement, a waterproof seal is formed between the closure portions such as disclosed in claim 16, and wherein the polymer actuator is located on one of the closure portions and the other portion is shaped to define a recess such as taught in claim 17. In an analogous art, Browne et al. further teaches a fastening releasable system, wherein the system is configured such that when the two closure portions are retained together by the closing arrangement that the polymer material expands to fill any voids between the surfaces to compensate for the tolerances the male protrusions on one cover and female receptacles on the other cover (waterproof seal is formed between the closure portions such as taught in claims 16 and 17) (see Figure 1, 6, paragraph [0017]). Therefore, it would have been obvious to one skilled in the art at the time of the invention was made to modify Chiodo et al. and Mockridge et al. to include the teaching of water proofing, wherein male protrusions would fill female receptacles to void any spaces between the two covers such as taught by Browne et al. to in order to enhance the effectiveness of Chiodo et al. and Mockridge et al. teaching in retaining the two cover parts together and further protecting the engine assembly of the device from being damaged from the outside.

Regarding **claim 18**, Mockridge et al. further teaches a portable device, wherein each cover part of the hand-portable device includes a body portion for covering a back or front of the engine assembly and a perimeter portion, the respective perimeter portions contacting one another when the cover encases the engine assembly, the

perimeter portions of the cover parts comprising the closure portions (Mockridge et al.; see figure 1, 10, 11).

Regarding **claim 19**, Browne et al. further teaches a portable device, wherein the polymer actuator further extends substantially around the perimeter portion of one cover part and the recess extends substantially around the perimeter portion of the other cover part, the polymer actuator on the one cover part to retain the two cover parts together (see Figure 1, paragraph [0017]).

Regarding **claim 20**, Browne et al. further teaches a hand-portable device, wherein a plurality of discrete polymer actuators are provided around the perimeter portion of one cover part, with complimentary recesses being defined within the other cover part (see figure 1, paragraph [0017]).

Regarding **claim 21**, Chiodo et al. further teaches cover part for a hand-portable device, the cover part including a polymer actuator, the configuration of which may be altered to alter the condition of the closing arrangement of the hand-portable device (paragraph [0069]).

**5) Claims 9-10, 24-25** are rejected under 35 U.S.C. 103(a) as being unpatentable over Chiodo et al. (US Pub. No. 2002/0062547) in view of Mockridge et al. (US Patent

No. 6,876,543) in view of Browne et al. (US Pub. No. 2004/0074069), and further in view of Staniszewski (US Pub. No. 2004/0075581).

Regarding **claims 9, 10, 24, 25**, Chiodo et al. Mockridge et al., and Browne et al. teaches a hand-portable device with covers encasing an engine assembly, and a closing arrangement including a polymer actuator. However, Chiodo et al., Mockridge et al., and Browne et al. does not teach a portable device, wherein the device includes input means for allowing the input of security information to control the selective alteration of the polymer actuator between the first and second configurations. In an analogous art, Staniszewski teaches an electronic timer system and method. Staniszewski further teaches a portable device, wherein the device includes input means for allowing the input of security information such as a code, which may be input of the hand-portable device, to control the selective alteration of the polymer actuator between the first and second configurations (paragraph [0073]). Therefore, it would have been obvious to one skilled in the art at the time of the invention was made to modify Chiodo et al., Mockridge et al., and Browne et al. invention to include input means for allowing the input of security information such as a code, which may be input of the hand-portable device, to control the selective alteration of the polymer actuator between the first and second configurations such as taught by Staniszewski to enhance security in preventing unauthorized usage or locking/unlocking of the device.

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**6) Claims 11, 26** are rejected under 35 U.S.C. 103(a) as being unpatentable over Chiodo et al. (US Pub. No. 2002/0062547) in view of Mockridge et al. Browne et al., and Staniszewski and further in view of Matsunaga Tsutomu (JP 11039053A).

Regarding **claims 11, 26**, Chiodo et al., Mockridge et al., Browne et al. and Stanizewski teaches a hand-portable device with covers encasing an engine assembly, and a closing arrangement including a polymer actuator, wherein the device includes input means for allowing inputting of security information. However, Chiodo et al., Mockridge et al., Browne et al. and Stanizewski does not teach a portable device, wherein the device includes means for receiving the security information from a remote source. In an analogous art, Matsunaga Tsutomu teaches a password authenticating apparatus for electronic notebook, portable computer that has lock release unit, which opens cover covering main body of portable computer, when password input from remote controller coincides with preset password. Matsunaga further teaches a portable device, wherein the device includes means for receiving security information from a remote source (paragraph [0012]-[0015]). Therefore, it would have been obvious to one skilled in the art at the time of the invention was made to modify Chiodo et al., Mockridge et al., and Stanizewski invention to include means for receive security information from a remote station such as taught by Matsunaga Tsutomu in order to protect stored information to be accessed without authorization.

3) **Claim 12** is rejected under 35 U.S.C. 103(a) as being unpatentable over Chiodo et al. (US Pub. No. 2002/0062547) in view of Mockridge et al. (US Patent No. 6,876,543) and further in view of Matsunaga (Japan 11-39053).

Regarding **claim 12**, Chiodo et al. teaches a hand-portable device (see Figure 1, paragraph [0065]) including

**a circuit assembly** (paragraph [0005]);

**a cover** encasing the circuit assembly (Figure 1, element 10a, 10b, paragraph [0065]);

**a closing arrangement**, which includes **a polymer actuator** (paragraph [0038]-[0040]), alterable between a first condition which retains at least a part of the cover on the circuit assembly and a second condition in which it allows the part of the cover to be removed from the engine assembly (paragraph [0068]-[0069]), wherein the hand portable device is configured such that a predetermined security information is used in term of in order to disassemble the module from the supporting structure, the temperature has to be raised above the shape transition temperature in order to prevent removal of expensive integrated circuit from a computer board (paragraph [0083]-[0085]). However, Chiodo et al. does not specifically teach a portable device, wherein the device includes an **engine assembly**. In an analogous art, Mockridge et al. teaches housing for a portable device and method assembling the same. Mockridge et al. further teaches a portable device which includes an **engine assembly** (Figure 1, element 16; col. 2, line 64 to col. 3, line 38) and wherein a closing arrangement

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alterable, part of the cover is remained on the engine assembly and part is removed (see Figure 10, 11; col. 2, line 64 to col. 3, line 38). Therefore, it would have been obvious to one ordinary skilled in the art at the time of the invention was made to modify Chiodo et al. portable device to include an engine assembly and the mechanical movement such as taught by Mockridge et al. for an improved housing structure that will facilitate assembly of the device.

Chiodo et al. and Mockridge et al. teaches a hand-portable device with cover encasing an engine assembly, and a closing arrangement including a polymer actuator. Chiodo et al. and Mockridge et al. further teaches applying heat transfer to the polymer actuator and further teaches passing an electrical current through the material and removing the cover (supporting structure) from the engine (module) to allow the module to fall clear if a predetermined security information is met (Chiodo et al.; paragraph [0083]-[0085]). However, Chiodo et al. and Mockridge et al. does not expressly teach an apparatus, wherein the hand portable device is configured such that it becomes partially or completely non-functional if the cover is removed from the engine in the absence of the predetermined security information. In analogous art, Matsunaga teaches an apparatus, wherein the hand portable device is configured such that it becomes partially or completely non-functional if the cover is removed in the absence of predetermined security information (paragraph [0039], [0044]). Therefore, it would have been obvious to one ordinary skill in the art at the time of the invention was made to modify Chiodo et al. and Mockridge et al. to include the hand portable device is configured such that it becomes partially or completely non-functional if the cover is

removed in the absence of predetermined security information in order to preventing a small scale electronic equipment from being stolen and can effectively prevent the leakage of information.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nicholas T. La whose telephone number is (571)-272-8075. The examiner can normally be reached on Mon-Fri 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lester Kincaid can be reached on (571)-272-7922. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Nicholas La  
08/28/2006



LESTER G. KINCAID  
SUPERVISORY PRIMARY EXAMINER